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Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Thiotepa for the conditioning treatment prior to haematopoietic progenitor cell transplantation

First publication	18 July 2007
Rev.1: information about Marketing Authorisation	11 June 2010
Rev.2: administrative update	8 November 2010
Rev.3: sponsor's name and address change	20 January 2014
Disclaimer Please note that revisions to the Public Summary of Opinion are purely administrative updates. Therefore, the scientific content of the document reflects the outcome of the Committee for Orphan Medicinal Products (COMP) at the time of designation and is not updated after first publication.	

On 29 January 2007, orphan designation (EU/3/06/424) was granted by the European Commission to ADIENNE S.r.l., Italy, to thiotepa for the conditioning treatment prior to haematopoietic progenitor cell transplantation.

In January 2014, ADIENNE S.r.l. changed name to ADIENNE S.r.l.S.U.

What is conditioning treatment prior to haematopoietic progenitor cell transplantation?

The term of "progenitor cell" is used to indicate those cells which are still immature, and do not express all the characteristics of the future mature cells which will derive from them. Haematopoietic progenitor cells are able to produce the cells of the blood (white blood cells, red blood cells), including the cells of the immune system and of the bone marrow. In some diseases it is necessary to give powerful drugs, which also destroy the haematopoietic progenitor cells in the bone marrow; these bone marrow cells then need to be replaced. In other diseases, the bone marrow or the immune system are absent, or working abnormally. In all these cases, it is sometimes appropriate to use a treatment called "haematopoietic progenitor cell transplantation". This consists in replacing the abnormal cells of the immune system and the bone marrow of the patient by introducing new progenitor cells, generally from another person. Before the transplantation can take place, any existing bone marrow cells have to be eliminated from the patient. This is called "preparation" treatment or "conditioning" treatment. Diseases requiring such transplantation are life-threatening.

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What is the estimated number of patients affected by the condition?

At the time of designation, conditioning treatment prior to haematopoietic progenitor cell transplantation affected approximately 0.6 in 10,000 people in the European Union (EU). This was equivalent to a total of around 30,000 people*, and is below the threshold for orphan designation, which is 5 people in 10,000. This is based on the information provided by the sponsor and the knowledge of the Committee for Orphan Medicinal Products (COMP).

What treatments are available?

Available conditioning treatments are based on the use of chemotherapy (using drugs to destroy the cells) or radiotherapy (exposing the whole body to radiation to kill the cancer cells). Several treatments were authorised for the condition in the Community at the time of submission of the application for orphan drug designation. Thiotepa used in combination with other drugs might be of potential significant benefit for the conditioning treatment. This assumption will have to be confirmed at the time of marketing authorisation. This will be necessary to maintain the orphan status.

How is this medicine expected to work?

Thiotepa belongs to a group of medicines called alkylating agents. Alkylating agents are highly reactive chemicals that bind to substances in the cell, and can damage or kill the cells. It is thought that by using this mechanism, thiotepa could destroy the patient bone marrow before the transplantation of the new haematopoietic progenitor cells.

What is the stage of development of this medicine?

At the time of submission of the application for orphan designation, the effects of thiotepa had not been evaluated in experimental models. No clinical trials in patients with conditioning treatment prior to haematopoietic progenitor cell transplantation had been initiated.

Thiotepa was not authorised anywhere in the world for conditioning treatment prior to haematopoietic progenitor cell transplantation or designated as orphan medicinal product elsewhere for this condition, at the time of submission.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 6 December 2006 recommending the granting of this designation.

Update: Thiotepa (Tepadina) has been authorised in the EU since 15 March 2010. Tepadina is indicated, in combination with other chemotherapy medicinal products:

1) with or without total body irradiation (TBI), as conditioning treatment prior to allogeneic or autologous haematopoietic progenitor cell transplantation (HPCT) in haematological diseases in adult and paediatric patients;

2) when high dose chemotherapy with HPCT support is appropriate for the treatment of solid tumours in adult and paediatric patients.

*Disclaimer: For the purpose of the designation, the number of patients affected by the condition is estimated and assessed on the basis of data from the European Union (EU 27), Norway, Iceland and Liechtenstein.
At the time of designation, this represented a population of 500,300,000 (Eurostat 2007).

More information on Tepadina can be found in the European public assessment report (EPAR) on the Agency's website: ema.europa.eu/Find medicine/Human medicines/European Public Assessment Reports

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Opinions on orphan medicinal product designations are based on the following three criteria:

- the seriousness of the condition;
- the existence of alternative methods of diagnosis, prevention or treatment;
- either the rarity of the condition (affecting not more than 5 in 10,000 people in the European Union) or insufficient returns on investment.

Designated orphan medicinal products are products that are still under investigation and are considered for orphan designation on the basis of potential activity. An orphan designation is not a marketing authorisation. As a consequence, demonstration of quality, safety and efficacy is necessary before a product can be granted a marketing authorisation.

For more information

Sponsor's contact details:

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For contact details of patients' organisations whose activities are targeted at rare diseases see:

- Orphanet, a database containing information on rare diseases which includes a directory of patients' organisations registered in Europe.
- European Organisation for Rare Diseases (EURORDIS), a non-governmental alliance of patient organisations and individuals active in the field of rare diseases.

Translations of the active ingredient and indication in all official EU languages[1], Norwegian and Icelandic

Language	Active Ingredient	Indication
English	Thiotepa	Conditioning treatment prior to haematopoietic progenitor cell transplantation
Bulgarian	Тиотепа	Кондициониращ режим преди трансплантация на хемопоетични стволови клетки
Czech	Thiotepa	Přípravná léčba před transplantací hematopoetických progenitorových buněk
Danish	Thiotepa	Konditionerende behandling før transplantation af hæmatopoietiske progenitorceller
Dutch	Thiotepa	Voorbereidende behandeling van een hematopoietische stamcellentransplantatie
Estonian	Tiotepa	Hematopoeetiliste eellasrakkude siirdamise ettevalmistav ravi
Finnish	Tiotepa	Esihoito ennen hematopoieettisten progenitorisolujen siirtoa
French	Thiotépa	Conditionnement précédant la greffe de cellules souches hématopoïétiques
German	Thiotepa	Zur Konditionierung vor einer hämatopoetischen Stammzelltransplantation
Greek	Θειοτέπα	Αγωγή προετοιμασίας πριν από μεταμόσχευση πρόγονων αιμοποιητικών κυττάρων
Hungarian	Thiotepa	Kondícionáló kezelés hematopoietikus progenitor sejt transzplantációt megelőzően
Italian	Tiotepa	Trattamento di condizionamento precedente al trapianto di cellule progenitrici ematopoietiche
Latvian	Thiotepa	Premedikācija pirms hemopoētisko cilmjšūnu transplantācijas
Lithuanian	Tiotepa	Simptominis gydymas prieš kamieninių kraujodaros ląstelių transplantaciją
Polish	Tiotepa	Leczenie kondycjonujące przed przeszczepieniem macierzystych komórek krwiotwórczych
Portuguese	Tiotepa	Tratamento de acondicionamento precedente a transplante de células progenitoras hematopoiéticas
Romanian	Tiotepa	Tratament de pregătire anterior transplantului de celule suşe hematopoietice
Slovak	Tiotepa	Udržiavacia liečba pred transplantáciou hematopoetických progenitorových buniek
Slovenian	Tiotepa	Pripravljalno zdravljenje (kondicioniranje) pred transplantacijo krvotvornih zarodnih celic
Spanish	Tiotepa	Tratamiento de acondicionamiento previo al transplante de células progenitoras hematopoyéticas
Swedish	Tiotepa	Konsoliderande behandling inför stamcellstransplantation

[1] At the time of designation

Language	Active Ingredient	Indication
Norwegian	Tiotepa	Kondisjonerende behandling før transplantasjon av hematopoietiske progenitorceller
Icelandic	Thiotepa	Undirbúningsmeðferð fyrir blóðmyndandi stofnfrumuígræðslu